

## **REMARKS/ARGUMENT**

Claims 1, 3, 5-7, 9, 10, 13, 14, and 16-19 have been amended herein.

Accordingly, claims 1-19 are currently pending in the present application. It is respectfully submitted that the amendments to the claims do not add new matter and have adequate support throughout the Specification.

Applicants thank the Examiner for indicating that claim 9 would be allowable if rewritten in independent form to include all of the limitations of the base claim and any intervening claim. Applicants have rewritten claim 9 in accordance with the Examiner's suggestion. It is respectfully submitted that the amendments to claim 9 do not add new matter, have adequate support throughout the Specification, and place claim 9 in allowable condition.

Otherwise, Applicants respectfully traverse all objections and claim rejections for the reasons that follow:

### **I. INFORMATION DISCLOSURE STATEMENT**

Submitted herewith is an Information Disclosure Statement and accompanying PTO-1449 form listing U.S. Patent No. 5,667,410 to Johnston, which was cited in the Background and Prior Art section of the present application. It is respectfully requested that the Examiner consider this reference and provide Applicants with an initialed copy of the PTO-1449 form with the next Office communication.

### **II. OBJECTIONS TO THE DRAWINGS**

The drawings were objected under 37 C.F.R. 1.84 for including reference character "32," which was not referenced in the Specification; for using reference character "36" to refer to multiple components (i.e., the manual test jig and the guide blocks); and for not showing every feature as claimed.

Submitted herewith on a separate sheet of paper is a "Request for Entry of Proposed Drawing Corrections," together with a red-lined version of Figure 1 showing two new reference characters "61" and "62" labeling distal and proximal ends of the spring probe, respectively. Furthermore, the Specification has been amended to make clear that the manual test

jig is referred to by reference character "32," not "36." It is respectfully submitted that the amendments to the Figures and Specification do not add new matter, have adequate support throughout the Specification as originally filed, and adequately address the Examiner's drawing concerns. Accordingly, it is kindly requested that the objections to the drawings be withdrawn.

### III. OBJECTION TO THE TITLE

The Title of the Invention was objected to for not be descriptive of the invention. Applicants have amended the Title to read "SPRING CONTACT PROBE DEVICE FOR ELECTRICAL TESTING." It is respectfully submitted that the amended title does not add new matter and is descriptive of the invention as claimed. Accordingly, it is kindly requested that the objection to the Title be withdrawn.

### IV. REJECTIONS OF CLAIMS 1-8 AND 10-19 UNDER 35 U.S.C. § 103(a)

Claims 1-8 and 10-19 were rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 5,175,493 to Langgard (hereinafter "Langgard") in view of U.S. Patent No. 5,570,033 to Staab (hereinafter "Staab"). Respectfully, Applicants traverse.

Claim 1 is directed to "[a] unitary spring contact probe comprising a resilient spring section, a first plunger section extending from a distal end of the resilient spring section for contacting a semiconductor device under test and a first stopper projecting from the first plunger section substantially transversely to an axial direction of the plunger section; *wherein the resilient spring section, the first plunger section, and the first stopper are formed as an integral, unitary structure.*

Langgard is directed to a shielded electrical contact spring probe assembly for testing printed circuit boards. (Langgard; Abstract). The spring probe assembly includes a spring probe 4, which is inserted into an axial bore 18 of a core 3. The contact spring probe 4 includes a plunger 35 having a probe tip 36 that provides electrical contact with a circuit board to be tested. The probe 4 is retractable into a barrel 38, and a separate and distinct coil spring 43 is provided at a rear end 44 of the barrel 38. (Langgard; col. 5, lines 22-35). The coil spring 43

urges the plunger 35 outwardly so that the tip 36 makes electrical contact with a circuit board to be tested. (Langgard; col. 5, lines 35-37).

Staab relates to a spring probe BGA contactor with a device stop. The spring probe contactor includes a plurality of spring probes 12 for providing a connection between a Ball Grid Array (BGA) device to be tested and a Device Under Test (DUT) circuit board. (Staab; Abstract). The spring probes 12 are held within a contactor block 14, which has a plurality of holes drilled therethrough to accommodate the spring probes 12. (Staab; col. 2, lines 53-55). A raised portion 22 is provided on a top keeper plate 20. The raised portion 22 acts as a BGA device stop for preventing over-insertion of the BGA device. (Staab; col. 2, lines 53-55).

It is respectfully submitted that neither Langgard nor Staab discloses that "the resilient spring section, the first plunger section, and the first stopper are formed as an integral, unitary structure," as recited in claims 1 and 13. Benefits of the unitary nature of the recited structure include reduced manufacture and assembly time and reduced cost. Assembly of such disparate elements into a unitary structure is unobvious. With elements manufactured in a single unitary structure, no time or care need be spent aligning them or attaching them during assembly of a probe. This makes assembly easier and possibly less time consuming. As described above, the spring probe 4 of Langgard includes a separate and distinct coil spring 43 for biasing the probe 4 against a circuit board to be tested. Likewise, the spring probes 12 of Staab are not disclosed as being formed into a single integral and unitary structure. Further regarding Staab, the raised portion 22 (i.e., the stopper) is a separate and distinct structure and, as such, does not "[project] from the first plunger section substantially transversely to an axial direction of the plunger section," as recited in claims 1 and 13.

For at least the foregoing reasons, it is respectfully submitted that claims 1 and 13 are allowable over the combination of Langgard and Staab. Furthermore, since claims 2-8 and 10-12 ultimately depend from claim 1, and since claims 14-19 ultimately depend from claim 13, it is respectfully submitted that these claims are allowable over Langgard and Staab for at least the same reasons. Accordingly, it is kindly requested that the rejections of claims 1-8 and 10-19 under 35 U.S.C. § 103(a) be withdrawn.

V. CONCLUSION

In view of the foregoing, it is respectfully submitted that all pending claims are allowable. Accordingly, reconsideration and prompt allowance of all pending claims is therefore earnestly solicited.

I hereby certify that this correspondence is being deposited with the United States Postal in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450, on October 1, 2004:

Robert C. Faber

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Name of Person Mailing Correspondence

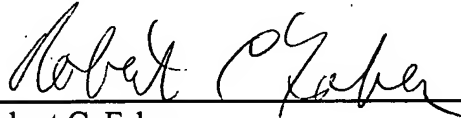


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October 1, 2004

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Date of Signature

Respectfully submitted,



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Robert C. Faber

Registration No.: 24,322

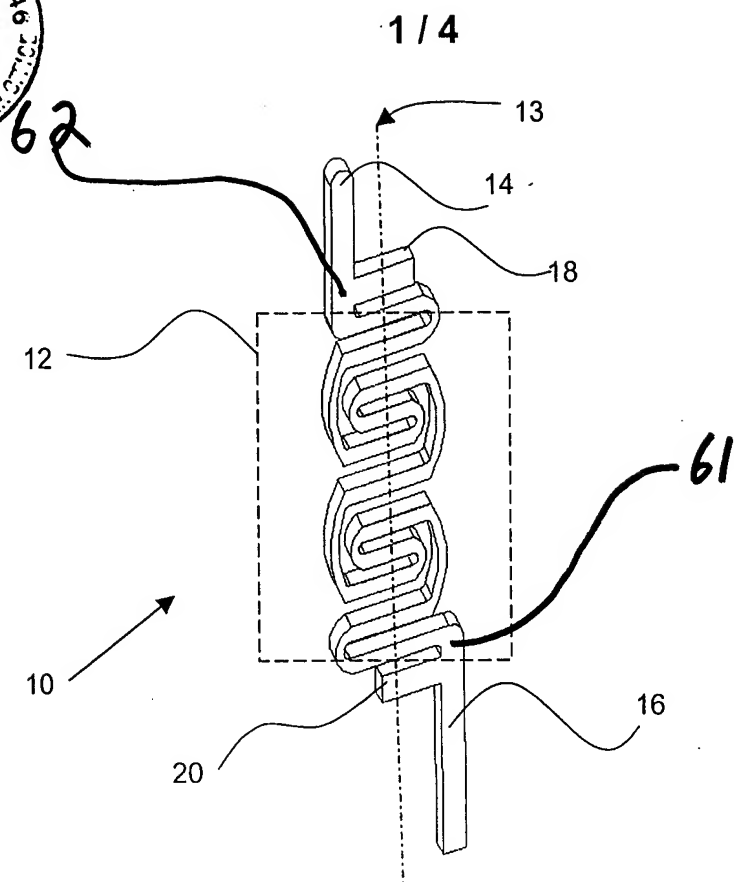
OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

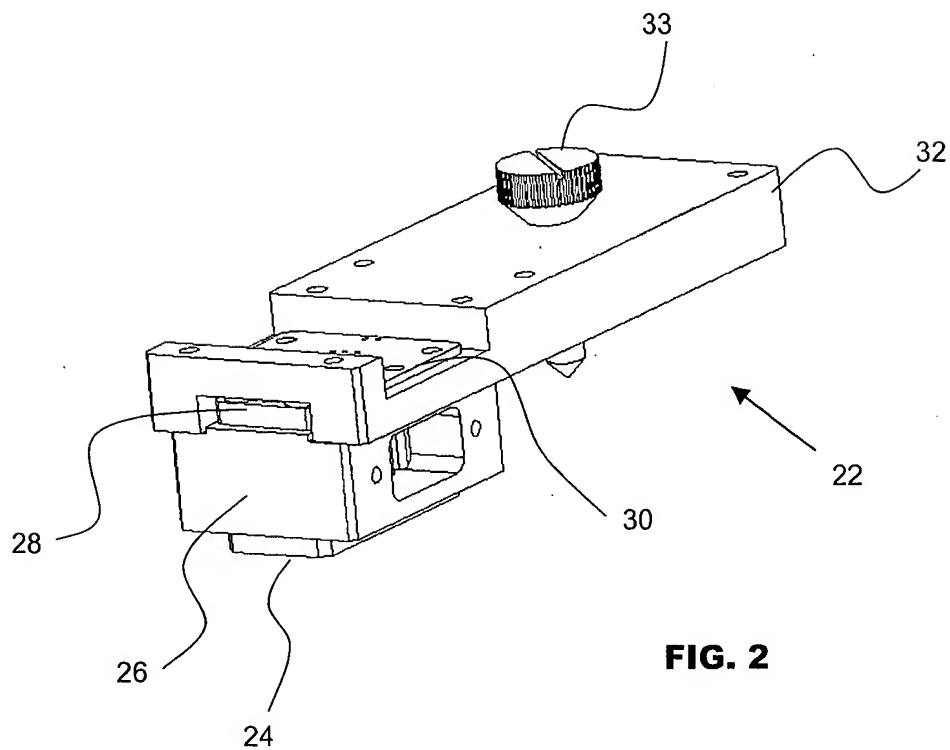
New York, New York 10036-8403

Telephone: (212) 382-0700

RCF:BND



**FIG. 1**



**FIG. 2**



P/4076-62

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Ching Man Stanley TSUI et al.

Date: October 1, 2004

Serial No.: 10/722,635

Group Art Unit: 2829

Filed: November 26, 2003

Examiner: Jermele M. Hollington

For: SPRING CONTACT PROBE DEVICE FOR ELECTRICAL TESTING (As Amended)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SUBMISSION

Sir:

Submitted herewith is a copy of art together with a form listing the same for the convenience of the Examiner.

I respectfully request that the information submitted be considered and enclose our check number 18293 in payment of the required \$180.00 fee.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee due during the pendency of this application is not paid, the Patent and Trademark Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

I hereby certify that this correspondence is being deposited with the United States Postal in an envelope addressed to: Commissioner for Patents, Alexandria, VA 22313-1450, on October 1, 2004:

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Signature

October 1, 2004

Date of Signature

RCF:BND:msd

Respectfully submitted,

Robert C. Faber

Robert C. Faber

Registration No.: 24,322

OSTROLENK, FABER, GERB & SOFFEN, LLP

1180 Avenue of the Americas

New York, New York 10036-8403

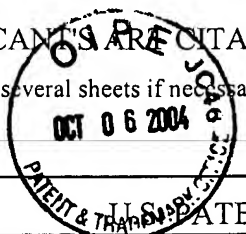
Telephone: (212) 382-0700

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<b>APPLICANT'S REFERENCE CITATION</b> (Use several sheets if necessary) 		Application <b>10/722,635</b>		OFGS File No. <b>P/4076-62</b>			
		Applicant <b>Ching Man Stanley TSUI et al.</b>					
		Filing Date <b>November 26, 2003</b>		Group Art Unit <b>2829</b>			
<b>U.S. PATENT DOCUMENTS</b> (not submitted for applications filed after 6/30/03)							
Examiner Initial	Document Number	Date MM-YYYY	Name	Class	Sub-class	Filing Date If Appropriate	
	US-5,667,410	09-1997	Johnston	439	700		
	US-						
	US-						
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	US-						
<b>FOREIGN PATENT DOCUMENTS</b>							
	Document Number	Date MM-YYYY	Country	Class	Sub-class	Translation	
						Yes	No
<b>OTHER DOCUMENTS</b> (Including Author, Title, Date, Pertinent Pages, Etc.)							
Examiner		Date Considered					
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP § 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to the applicant.							